

Application No. 10/021,629

PATENT

Response Dated 01/17/2006

Reply to Office Action of 10/17/2005

Agent's Docket No. 12560-US

Remarks and Arguments:

In response to the Examiner's objection under 35 U.S.C. 101, claims 1 to 11, 20, and 24 have now been recast relating to a network management and service provisioning computing environment in accordance with the Examiner's suggestion.

Claims 1, 2, 3, 5, 6, 8, 9, 10, 12, 13, 14, 17, 21, and 22 have been amended to better reflect the Applicant's contribution to the art. Paragraphs [07], [12] to [15], [17] to [19], [21], [23], [24], [27] to [39], [41] to [60] and [62] to [71] have also been amended to better reflect the Applicant's contribution to the prior art, to correct clerical errors or to improve readability. Claim 16 has been withdrawn and consequently claim 17, previously dependent from claim 16, has been amended to depend from claim 12. Applicant has identified a clerical error in claim 23, and claim 23 has been amended accordingly.

In respect of the Examiner's objections under 35 U.S.C. 102(b) to claims 1 and 12, the Examiner is of the opinion that the previous response filed 07/25/2005 is non-compliant with CFR 1.111(b) as, in the Examiner's opinion, the previous response did not specifically pointing out how the language of the claims patentably distinguishes from the references.

The Applicant finds the Examiner's position relating to the response as being non-compliant to be mildly surprising given that the Examiner quotes the following passage from the 07/25/2005 response:

Haggerty clearly states that "[t]he naming service [...] is used as a top-level object lookup mechanism ..." which is different from a dictionary of operations used for resolving operation names. Haggerty also fails to teach a managed entity class implementing an invoke function which invokes operations by name.

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It is respectfully submitted that the above passage succinctly states that the object resolution mechanism taught by Haggerty is not equivalent and does not provide the functionality of the dictionary of operations used for resolving operation names claimed in the application, and that Haggerty does not teach the single managed entity class element implementing an invoke function which causes the execution of an operation whose name is specified as a parameter passed to the invoke function.

As the Examiner has retained the anticipation objection, the above argument is restated herein in respect of the amended claims:

Amended claim 1 of the present application is directed to a novel network management and service provisioning environment coded in an object oriented statically typed language and configured to invoke polymorphic operations, the computing environment comprising: an executable code implementation of a single managed entity object class which is run-time derivable into a derivation hierarchy of managed data network object types at run-time based entity directives parsed from a file, and the single managed entity object class includes an executable code implementation of an invoke function configured to cause the execution of a named operation via a function call to the invoke function using the name of the operation as a parameter to the invoke function. This allows the pre-compilation of the network management and service provisioning middleware specifying a single managed entity object class without coded implementations of managed data network object type specific operations. When the single managed entity object class is derived into managed data network object types at run-time, the invoke function implemented by the single managed entity object, and inherited by each derived managed data network object type, is used to cause the execution of operations specified post-compilation at run-time.

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In contrast, Haggerty does not teach a single managed entity object class run-time derivable via run-time parsed entity directives from a file, nor does Haggerty teach a single managed entity object class including an executable code implementation of an invoke function configured to cause the execution of a named operation via a function call to the invoke function using the name of the operation as a parameter to the invoke function. The Examiner has characterized Haggerty's Managed Object base object as being the single managed entity object class. However, Haggerty's Managed Object base object is not run-time derivable based on directives parsed from a file. At page 76 left column middle of the second paragraph, Haggerty states:

The foundation of the system is built around the topology objects that reside in the Managed Object Manager. The topology objects represent the network, and contain information pertaining to addressing, type, ...

and in the penultimate paragraph in the right column of the same page

The ProSphere architecture defines an abstract set of CORBA objects, which model all basic types of network objects. These objects are largely based on the TMN Generic Network Model and define the network topology objects...

Clearly, by referring to multiple topology objects and to an abstract set of objects which model basic types of network topology objects, Haggerty teaches the pre-compilation of a multitude of object types, albeit derived from Haggerty's Managed Object, where only the topology objects are further derivable.

The Examiner cites the following passage from page 76 column 1 second paragraph:

The topology objects are created through OpenView Map additions to the MOM or by auto discover

as functionality equivalent to the run-time derivation of the single managed entity object class into managed data network object types based on entity directives parsed from a file. It is

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respectfully submitted that the auto discovery and OpenView Map additions to the MOM as described cause the instantiation of Haggerty's topology objects in the MOM, which is equivalent to our description at paragraph [60] wherein the containment hierarchy maintained by the managed object server is populated with managed object instances corresponds to field installed network entities. The instantiation of managed objects in a containment hierarchy is only claimed in dependent method claim 13. The containment hierarchy of managed data network object instances corresponding to field installed network entities shown in Fig. 5 is different from the derivation hierarchy of managed data network object types shown in Fig. 3. It is respectfully submitted that deriving the single managed object class into a derivation hierarchy of managed data network object types is different from populating a containment hierarchy of managed data network object instances. Furthermore, it is respectfully submitted that Haggerty's interaction with the OpenViwe map and auto discovery are not equivalent to parsing entity directives from a file.

The Examiner has characterized Haggerty's Naming Service as being a dictionary of operations. However, Haggerty at page 75 left column last paragraph teaches

Naming Service is a ... service that provided the ability to bind a name to an object reference, and later to resolve the name to determine the object reference. The naming service in ProSphere is used as a top-level object lookup mechanism. User Interfaces can resolve object references ...

Clearly, Haggerty's Naming Service is used to resolve top-level object instances tracked by the Managed Object Manager which is equivalent to resolving managed data network object instances in the containment hierarchy tracked by the managed object server as described at paragraph [60] and which is not claimed. As resolving operation names is different from resolving managed object instances, it is respectfully submitted that Haggerty does not teach the dictionary of operations.

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Haggerty also fails to teach managed data network entity specification files including directives, a directive parser parsing directives from managed data network entity specification files at run-time, a generic lexical analyzer interpreting, at run-time, directives parsed from a managed data network entity specification file, the executable code implementation of the invoke function configured to cause the execution of an operation specified via a directive in a managed data network entity specification file at run-time via a function call to the invoke function using the name of the operation as a parameter to the invoke function.

Haggerty therefore fails to teach each and every element of the network management and service provisioning computing environment of amended claim 1. Independent amended claims 11 and 12 include similar limitations to those in amended claim 1. Claims 2 to 10, 13 to 15, 17, 19 to 24, 26, and 27 are variously dependent on claims 1 and 12, and include all limitations thereof. For these reasons, the Applicant respectfully submits that amended claims 1 to 15, 17, 19 to 24, 26, and 27 are not anticipated by Haggerty.

In view of the Examiners objections to claims 1, 2, 5 to 15, 17, 19, 20 to 24, 26, and 27 under 35 U.S.C. 103 based on Haggerty in view of the CORBA architecture and specification, the Examiner points to section 9.2.3.7 in the CORBA reference for support of polymorphic operations. However, the CORBA reference fails to teach polymorphic operations defined at run-time via the registration of an operation name with a dictionary of operations in accordance with a corresponding operation directive specified in a managed data network entity specification file. The Examiner further points to Section 10.3.1 of the CORBA reference for run-time capabilities. However the CORBA reference at Section 10.3.1 describes the real-time manipulation of type information in interface repositories.

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Interface Repositories are defined in the CORBA reference in Section 10.1 wherein "*The Interface Repository ... managed and provides access to a collection of object definitions.*" Clearly, the Interface Repository defined in the CORBA reference corresponds to the managed object server 240 of the present application and not to the dictionary of operations 330. Therefore, the run-time manipulation of type information relates to the instantiation of managed objects in the containment hierarchy. The CORBA reference fails to teach polymorphic operations defined at run-time via the registration of an operation name with a dictionary of operations in accordance with a corresponding operation directive specified in a managed data network entity specification file.

In summary, the combination of the Haggerty reference and the CORBA reference fails to teach each and every element of the network management and service provisioning computing environment of amended claim 1. Independent amended claims 11 and 12 include similar limitations to those in amended claim 1. Claims 2, 5 to 10, 13 to 15, 17, 19, 20 to 24, 26, and 27 are variously dependent on claims 1 and 12, and include all limitations thereof. For these reasons, the Applicant respectfully submits that the claims 1, 2, 5 to 15, 17, 19, 20 to 24, 26, and 27 of the present application are not obvious in view of the combination of Haggerty with the CORBA reference.

In view of the Examiner's objections to claims 3 and 4 under 35 U.S.C. 103 based on Haggerty in view of the CORBA reference and Acker, the Examiner points to Acker for support for human-readable managed object entity specification files. However, the passages the Examiner cites and to which the Examiner refers relate to a compiler which interprets human-readable files. The network management and service provisioning environment claimed is already compiled and performs real-time parsing of managed object entity

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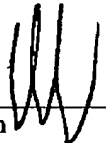
specifications. It is respectfully submitted that compile time parsing of human-readable files in support of compilation operations taught by the combination of Haggerty, CORBA and Acker references does not teach the claimed run-time parsing of human-readable managed object entity specification files.

Therefore, the combination of the Haggerty, CORBA and Acker references fails to teach each and every element of the network management and service provisioning computing environment of amended claims 3 and 4. For these reasons, the Applicant respectfully submits that amended claims 3 and 4 of the present application are not obvious in view of the combination of Haggerty, CORBA and Acker references.

It is submitted that no additional subject matter has been introduced by the amendment.


Reconsideration and allowance are respectfully requested.

Respectfully submitted,



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